

What Do You Know About Saturn?

Saturn — the jewel of the solar system.



LESSON TIME

20 to 30 minutes

PREPARATION TIME

15 minutes

MATERIALS CHECKLIST

- Crayons
- Pencils
- Pre-assessment drawing and writing worksheets, or 1 sheet of black construction paper and writing paper, for each student
- Post-assessment drawing and writing worksheets for each student

STUDENT PREREQUISITES

Students should be able to draw and write independently or with some teacher support.

LESSON NO. 1

Language Arts Focus — Descriptive Writing

Science Focus — Assessment through Writing and Illustration

OVERVIEW

This lesson starts students thinking about Saturn. In this short activity, students draw and write to express their knowledge of Saturn.

BACKGROUND

Through pre-assessment you will get an idea of how your students think about Saturn and its place in the solar system. You will be looking at how your students draw Saturn's shape, rings, and moons and what level of detail they include. The pre-assessment will help you answer questions about language skills and scientific concepts, for example:

- In what areas will I need to build vocabulary?
- Do my students have an understanding of the Saturnian system?
- Can my students articulate, in writing, what they know about Saturn and the Cassini–Huygens mission?

At the end of the *Reading, Writing & Rings!* unit, you will be able to measure student growth through a pre- and post-assessment comparison.

Objectives

The pre-assessment will:

1. Identify student thinking about Saturn and the Cassini–Huygens mission at the start and at the conclusion of the unit.
2. Reveal students' scientific misconceptions at the outset.
3. Indicate evidence of student learning over the course of the lessons.

Teacher Preparation

Make one copy for each student of the pre-assessment drawing worksheet and the pre-assessment writing worksheet, or provide black construction paper and writing paper for each student. For post-assessment at the end of the unit, make one copy for each student of the post-assessment drawing and writing worksheets.

Procedure

1. Pass out a copy of the **pre-assessment drawing worksheet** “What I Know About Saturn” (or black construction paper) and crayons to each student.



2. Prompt students by asking them to draw what they know about the planet Saturn and the Cassini spacecraft. Do not give students any ideas or added directions for drawing to ensure that the activity will give an accurate assessment of student understanding.
3. When drawings are complete, hand out a copy of the **pre-assessment writing worksheet** “What I Know About Saturn” (or plain paper) and pencils.
4. Prompt students by asking them to write what they know about Saturn and the Cassini spacecraft. Do not give additional information. Their writing will provide an important indication of their understanding at the outset of this unit.
5. At the completion of the unit, repeat the exercise using the **post-assessment drawing worksheet** and the **post-assessment writing worksheet**.

Using Science Notebooks

Decide whether to integrate all the worksheets and other writing activities from this unit into the Science Notebook or to collect them in separate student portfolios. For more information, see “Using Science Notebooks” in the Getting Started section of the Introduction.

Why This Works

As you begin *Reading, Writing & Rings!* you will want to know what students know or think they know about Saturn. Very often students have misconceptions about scientific topics. By identifying misconceptions early, they can be addressed and, over time, corrected.

It can be challenging to get a clear picture of student understanding. This assessment provides students two modalities for expression: writing and drawing. For very young students, drawing often serves as an impetus to writing, so in these activities we have asked students to start by drawing and then to write. By using both these skills, students who learn through image, and students who learn through text, will be able to express what they know and what they have learned.

Using the same assessment activity at the outset (pre-assessment) and at the conclusion (post-assessment) of this unit will allow you and your students to see just how much they have learned about Saturn and the Cassini–Huygens mission.

Assessment

The students’ work for this lesson will be the basis for assessing their progress at the end of the unit. For things to look for in students’ work, see “Growth Indicators” in the Getting Started section of the Introduction.

